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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/020,461	12/14/2001	Hichem M'Saad	A6123/T43700	9343
32588	7590	09/14/2004	EXAMINER	
APPLIED MATERIALS, INC. 2881 SCOTT BLVD. M/S 2061 SANTA CLARA, CA 95050			HOFFMANN, JOHN M	
			ART UNIT	PAPER NUMBER
			1731	

DATE MAILED: 09/14/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/020,461

Applicant(s)

M'SAAD ET AL.11

Examiner

John Hoffmann

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 23 August 2004.  
2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.  
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-42 is/are pending in the application.  
4a) Of the above claim(s) 20 is/are withdrawn from consideration.  
5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.  
6) ☒ Claim(s) 1-16, 19 and 21-44 is/are rejected.  
7) ☒ Claim(s) 17 and 18 is/are objected to.  
8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.  
10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).  
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)  
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.  
4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.  
5) ☐ Notice of Informal Patent Application (PTO-152)  
6) ☐ Other: \_\_\_\_\_.

## **DETAILED ACTION**

### ***Election/Restrictions***

Applicant's election with traverse of Group I, species A1 and B2 in the reply filed on 8/23/04 is acknowledged. The two traversals were convincing, thus the claims corresponding to groups II and III and specie B1 are presently examined. Claim 20 is withdrawn as it is drawn to non-elected Specie A2 – there being no traversal of that election.

### ***Claim Objections***

Claims 17-18 are objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form.

Claim 1 requires the core be formed “on” the cladding layer. Claim 17 requires the core be “in” the layer. These are mutually exclusive things: compare instant figures 7 and 8. Claim 7 does not further limit claim 1; rather, it takes it to a completely new and mutually exclusive scope.

Claims 7-8 are not further treated on their merits.

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 1-6 and 9-28 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1: there is no antecedent basis for either of “the refractive” indices: the layer and the core may have more than one – thus “the” is misleading. One of ordinary skill would not know if infringement can be avoided by creating an undercladding with more than one index.

Claim 3: the term SiON is indefinite as to its meaning. It is unclear whether such is a chemical formula which requires a 1:1:1 ratio of the atoms. Or if it is shorthand for formula of paragraph [13]

There is no antecedent basis for the following terms “the ratio” claims 6, 10, 23 and 8; “the oxygen source claim 7, the nitrogen source claim 7, the flow of claim 9 and 11; the contrast of claim 14; the refractive index of claim 22.

Claim 22: the antecedent basis of “said optical core” is confusing because there is no statement of its actual creation. And this would makes it impossible for one of ordinary skill to determine as to whether the claims requires a step of creating a core, followed by a step of doping that core to increase the refractive index. Or it means that the core is created such that the index is increased above some non-existent, hypothetical core that will never be created. It is suggested that claims do not recite performing an operation (such as increasing an index) on non-existent structure.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

(or)

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-2, 15-16, 19, 22-26 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by Bazylenko 6154582.

Claim 1: see example 1, figure 1A and col. 6, lines of Bazylenko.

Claim 2: see col. 5, lines 46-62 which teaches a energy greater than 3 Watts/cm and col 6, line 12 teaches a pressure less than 100 millitorr.

Claim 15: see col. 9, lines 15-20.

Claim 16: from col. 9, line 5: it is a self-biased voltage.

Claim 19: See col. 6, lines 19.

Claim 22: see col. 2, lines 22-24 which teaches that nitrogen free process is only a preferred embodiment. It is clear that such is an indication that one can use nitrogen in the process.

Claim 23: see col. 6, line 25.

Claims 24-26 is clearly met as per the above discussions.

***Claim Rejections - 35 USC § 102***

Claims 1 and 12-14 and 21 are rejected under 35 U.S.C. 102(a) as being anticipated by Johnson 6614977.

See col. 4, lines 31-32 and figures 3A-B.

Claim 12: See col. 7, line 32. It is deemed that annealing is a step, sub-process, and/or a sub-step of the plasma process. Claim 21 is met because one can alternatively interpret the annealing to be after the plasma process. The broadest reasonable interpretation of the "plasma process" is broad enough that it reads on the annealing as being part of the process or as being separate from the process/

Claim 13: see col. 4, lines 23-25. It is inherent that the glass would be doped with Ge or P.

Claim 14: see col. 6, line 59 as well as applicant's own page 3, line 11 of the specification.

***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2-11, 22-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Johnson 6614977.

Claim 2: The operating parameters are not taught by Johnson – it would have been obvious to perform routine experimentation to determine the optimal plasma

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parameters – depending upon the particular apparatus and the desired resultant product.

Claims 3, 5 are clearly met.

Claim 4: see col. 7, lines 14-15.

Claim 6: see col, 7, lines 13-20: This comes to a ratio of about 12:1.3 – which is well above the 3:1 ratio.

Claim 7 is met as per above cited portions, col. 3, line 33 and col. 4, line 23. It is deemed that since deuterium is simply a form of hydrogen, that SiD<sub>4</sub> is a silane.

Claim 9-11: such would have been obvious depending upon how many waveguides are being made. Making many large waveguides verses a few small waveguides would require different amounts of gases. It would have been obvious to make as many waveguides as desired which would take a corresponding increase in gas flow rates.

Claim 8: the ratio is not disclosed in Johnson, it would have been obvious to perform routine experimentation to determine the optimal amount of each component.

Claim 28 is met for substantially the same reason claim 13 is.

Claims 22-26 are met for substantially the same reasons given above

Claim 27 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bazylenko.

There is no indication of the ratio in the prior art. It would have been obvious to perform routine experimentation to determine the optimal amount of each component.

Claims 29-42 are rejected under 35 U.S.C. 102(b or a) as anticipated by or, in the alternative, under 35 U.S.C. 103(a) as obvious over Bazylenko or Johnson.

At the bottom of page 3, of the paper of 23 August 2004 Applicant states that the claims of groups I, II and III stand or fall together. Since claims 1-28 "fall" in view of the prior art, claims 29-42 fall together with those claims.

Furthermore, Applicant also argues that the inventions of claims 29-42 would be a matter of routine skill (to select an appropriate conventional computer system and implement the claimed process on that computer system).

### ***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

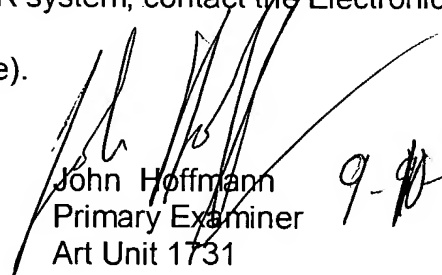
Sugiarto, Akwani and Dwason-Elli are cited as being relevant to the disclosed invention. Armacost is cited as disclosing the applicant's ion density.



Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Hoffmann whose telephone number is (571) 272 1191. The examiner can normally be reached on Monday through Friday, 7:00- 3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Steve Griffin can be reached on 571-272-1189. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

  
John Hoffmann  
Primary Examiner  
Art Unit 1731

9-10-04

jmh